



lenslite™ System ~ User Manual

November 2005

lenslite™ is the perfect tool for handheld, documentary, location and studio camera work, providing a lightweight beauty light source or on-axis fill light, designed to compliment perfectly the Sony Z1 and similar HDV cameras, and is also ideal for steadicam, dolly and crane shots where a lightweight fill is required without compromising the quality of the ambient light source.

The **lenslite**™ full kit comes cased complete with everything needed; ringlight system, power supply, collimating lens front, diffusion filter front, rotating filter tray for 4" x 4" filters and combination fixed tray for 4" x 5.65" or 4" x 4" filters .

Attaching the system

The **lenslite**™ ring light unit clamps onto the barrel of most popular fixed barrel zoom and prime lenses using a range of step down rings. Select the correct step down ring and insert from the back of the unit, lip to the inside, and fit into the lens clamp ring. Offer the lamp system up to the lens and slide on squarely until the stop lip on the step down ring restricts the lamp housing moving further down the barrel. Tighten the lens clamp but do not over tighten. The lens clamp ring is 110mm. Step down rings are available for most lenses from 105mm Century Optics Wide Angle adaptor down to 80mm for Zeiss Primes. An integral adaptor clamp for lightweight ARRI and Chrosziel bars is included and adaptors are available for 19mm ARRI bars. The ballast or power regulator is available as an integral base designed to fit the Sony Z1, PD150/170 and Panavision DVX100 which includes 15mm mounting rails or alternatively a free standing ballast is available.

IMPORTANT ~ It is essential to use the step down ring with exactly the right internal diameter matched to the external diameter of the lens you are using. Cheating by using a ring with even a 2mm differential will cause unsafe mounting and could cause the lamp housing to fall from the lens.

It is advised to always mount the lamp on the support rails as well as using the clamp ring. If the lamp is used in conjunction with a Wide angle or Tele converter then it is essential to use the support bars as the combined weight of the lens converter and lamp would put undue stress on the lens mounting.

The lamp head to ballast cable is permanently attached to the lamp head and connects to the 7 pin Lemo elbow connector on the side of the ballast. Connect the regulator loom to the side of the power supply unit, aligning the red dots and lines on the Lemo connectors. The standard loom length is 340mm. Extension looms are available.

Power supply

The power supply unit, (or flicker free ballast), will accept power from any 12 volt or 24 volt film and video battery, utilising the 2 pin Lemo D.C. In connector or the Lemo to XLR jumper with standard configuration XLR 4 pin, pin 4 +ve, pin 1 –ve. The regulator provides flicker free power and allows individual switching of four-quarter sectors, top, bottom, left and right, and dimming from 100% down to 0% without altering colour temperature. The power supply features instant start, at pre-set dim level, at full colour temperature. There are two LED indicators on the power supply; green on pilot, and red low battery warning light. When the battery voltage drops below a preset level, (12.1Volts/23.5), the red low-battery warning light comes on and at 11.4/21.8 Volts the low-battery protection cut-out circuitry will turn off the supply. It is advisable to change the battery as soon as the red light is lit. Please note the low-battery protection is only effective with **12Volt or 24 Volt** battery belts and won't protect a nominal 30 Volt battery pack. The power supply also has two 12 VDC regulated outputs which can be used to power the camera or Radio Mic receiver for instance. The power regulator has an additional 5 pin Lemo port next to the XLR power in which is to provide control from an external wireless dimmer receiver.

Powering from a camera, accessory bar or Steadicam ® sled

lenslite can be powered from the camera D.C. output, accessory bar or Steadicam ® sled, providing the manufacturers maximum current draw recommendations are adhered to.

lenslite requires around 25Watts of power at full output or 1.03Amps at 24VDC/0.9Amps at 28.8VDC. The ballast is most efficient when powered using a 24Volt supply. It is therefore advisable to use the 24 Volt output if available on the Steadicam sled or Arri or Panavision ® accessory bar for instance. The **lens**lite power regulator is auto-ranging, and there are no switch positions to alter for 12 or 24 Volt input. The output of the lamp is not affected by a fall in battery voltage.

IMPORTANT ~ Ensure the input polarity is correct when using adaptor cables. For instance Steadicam ports are not consistent polarity.

Battery belts

Gekko Technology battery belts are 14.4volt 9Ah NiMh battery packs, which provide nearly 4 hours running time in optimum conditions. NiMh offer high energy density power source with up to 100% higher capacity than equivalent sized Nickel Cadmium batteries. Unlike NiCads, NiMh batteries don't suffer from memory syndrome. Other benefits include long service life, environmental acceptability and excellent shock resistance. The battery belts should only be charged with the charger supplied with the kit or available from **Gekko Technology**, which is a constant current charger, - Δ V (minus delta V) type charger. The NiMH battery belts will not be damaged during extended periods of storage in a discharged state. NiMH batteries are not suitable for trickle charging.

kisslite® battery belt– KILBB01

Charging and Maintenance

Temperature

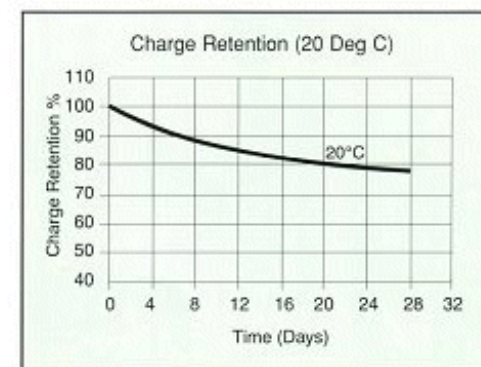
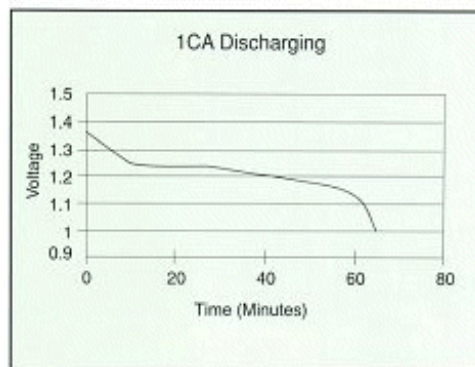
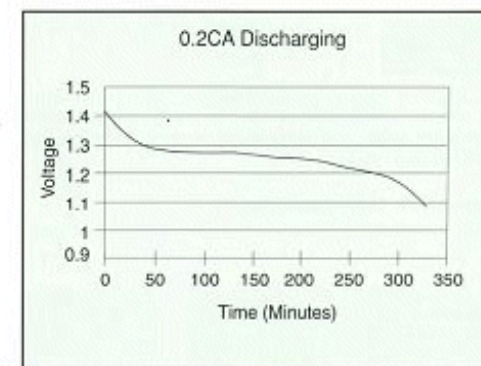
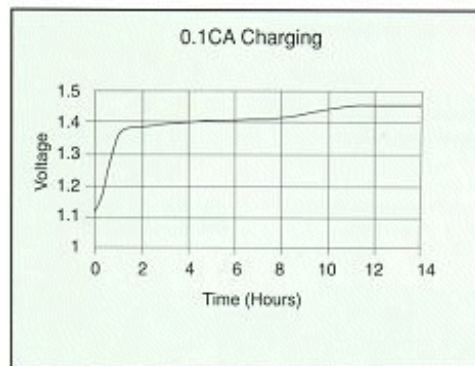
Standard Nickel Metal Hydride cells	
Standard Charging	0 to +45°C
Quick Charging	+10 to +45°C
Fast Charging	+10 to +45°C
Discharging	-30 to +60°C
Storage (Possible)	-30 to +65°C
Storage (Recommended)	-20 to +30°C

NB: Use and/or storage at high temperatures will reduce cell/battery belt life. Nominal ambient temperature is +20°C. Battery performance may be derated at High or Low Temperatures.

Charging Times

Nickel Metal Hydride		
Standard	0.1CA	14 – 16 hours
Quick	0.3CA	4 hours
Fast	0.5CA	2.5 hours
Important Notes: Use Gekko Technology battery charger KIL-UC01 for constant current charging. Cell voltage must not rise above 1.70 volts. Standard, Quick and Fast charge must be terminated when cells are fully charged. Trickle charging is not recommended. Use of timer alone to control charging is not permitted. Use $-\Delta V$ termination at 6mV/cell and/or dT/dt termination at 0.6°C/minute.		

GENERAL CHARACTERISTIC GRAPHS



Battery charger

The **Gekko Technology** battery charger will charge one battery at a time. The universal auto-sensing battery charger, which operates on worldwide AC supplies from 90volts – 260volts and 50Hz and 60Hz supply, will also operate from a 12 volt DC supply from a negative earth vehicle with the cigar lighter adaptor supplied.

To operate, connect the charger to the input supply and connect the battery.

The battery charger is fully automated. Push the green button to charge. The red button to start discharge, followed by charge cycle. The black button to stop charge or discharge cycle. A full charge will take about two hour thirty minutes per battery belt. A complete discharge will take about six hours per battery belt.

The dedicated battery charger is a constant current charger, $-\Delta V$ (minus delta V) type charger. To protect both the charger and the battery belts, the maximum charge and discharge currents are automatically limited. In discharge mode, the discharge cut off voltage level is set at 0.9 volts per cell to avoid damage to the battery belt. Zero Current Voltage Check prevents incorrect delta peak auto cut-off caused by high connection resistance or high resistance present in old or faulty battery packs. Low and over voltage input battery warning function-input voltages outside the range 9.5 to 15.5 volts causes a warning message 'Input Power' to be shown on the display, together with an audible alarm. Automatic initial charge stage checks the condition of the battery belt being charged. If the belt is not in a condition suitable for charging, the display shows a warning message 'Output Battery Connector Error' together with an audible alarm. In the event of the battery belt being charged becoming disconnected from the charger, the display shows a warning message 'Output Battery Connection Error' together with an audible alarm. Reverse polarity protection is provided. The display will show 'Output Battery Reverse Polarity' if the battery belt being charged is connected in reverse along with an audible alarm.

EXTREMELY IMPORTANT – READ BEFORE USING THE BATTERY CHARGER –

SAFETY PRECAUTIONS

- Place the charger on a firm level surface for charging. DO NOT cover charger.
- Only charge batteries in a well ventilated cool area.
- NiMH batteries become **WARM** to the touch when charged. If the pack feels **HOT** to the touch, disconnect at once.
- **ALWAYS** disconnect the battery belts when **NOT** charging, as they may discharge themselves if left connected.
- If the battery belts are severely overcharged they may become very hot. For this reason it is always advisable to place the pack on an insulated heat resistant surface for charging.
- The charger must **ONLY** be used in completely dry conditions.
- **DO NOT** disassemble the charger.
- **NEVER** leave the charger unattended whilst charging.
- **DO NOT** charge the battery belts immediately after use while they are still warm, allow to cool to ambient temperature before charging.

Filter holders and lamp attachments

The integral matte box system holds two filter trays, a 4" x 4" rotating filter tray and a 4" x 5.65" combination filter tray. The mattebox system/filter tray holders are permanently attached to the lamp head and not removable. The 15mm bars slide backwards and forwards to provide support when used with lens accessories such as Wide angle and Tele converters.

The full kit also contains a diffusion frame, which will attach over the lamp head attached with four locating/retaining pegs.

For colour correction or cosmetic gels, a clear gel frame accessory is available along with a gel-cutting template. Cut the filter using the gel-cutting template and tape the filter to the clear gel frame and then attach the frame to the lamp housing using the pegs. This avoids damaging the collimating optics on the lamp head.

Transmission losses

The clear gel holder has a tau figure of 95% and the Diffusion Version a tau figure of around 51%.

tau = light transmission, i.e. transmittance t_{D65} in percent according to DIN 5036

MAINS SUPPLY UNIT – Optional Extra

The **lenslite** ® Power Supply unit can be powered with the optional mains supply unit. The mains supply unit is auto-ranging and accepts input voltages from 90VAC to 264 VAC and frequencies from 47 – 63 Hz. Input connection is IEC AC mains . The output connection is XLR4 in standard film and video camera configuration, pin 4 +ve, pin 1 –ve. Output voltage 18 volts.

To avoid the lamp head becoming unnecessarily hot, and to obtain maximum life from the components, switch off when not in use.

IMPORTANT

To comply with the safety standards the following must be observed when using this power supply unit.

- Maximum ambient temperature around the power supply unit must not exceed 40 deg C.
- The mains supply unit is designed for use with the **lenslite** and **kisslite** Power Supply unit only and is rated accordingly. Power demands of other equipment from other manufacturers may exceed the rated output power of this unit, which should not be exceeded.
- The power supply unit is not designed to be repaired by service personnel and in case of failure or component defect and contains no serviceable components.
- The power supply is approved and certified for the rated voltage range 100 – 240 V.
- To disconnect from line voltage, pull mains A/C plug.
- For safe operation, the unit must be protected by a fuse in the installation system.

INPUT SPECIFICATIONS

Input range	90 VAC to 264 VAC (wide range, suitable for all mains voltages around the world).
Frequency	47 – 63 Hz
Input current	1A rms @ 90 VAC 0.5 A rms @ 264 rms
Efficiency	80% typical at full load
EMI filter	Meets FCC 20780 Part 15, Class B, EN55022 class B and VDE 0878 PT3 class B
Electromagnetic Compatibility	Complies with EN50081-1 and EN50082-1

Environmental

Operating temp	0° C – 40° C ambient
Storage temp	-10° C to 70° C
Thermal reg	+/- 0.02%/°C

MTBF >100,000 hours at full load and 25' C

Ambient conditions to MIL 217E

Connections

AC input IEC 3 pin AC mains receptacle, suitable moulded leads with IEC socket and following plugs are available.

UK 3 pin mains plug

EU schuko plug

USA 3 pin mains plug

DC output XLR 4F pin 4 +ve, pin 1 –ve as supplied with mains adaptor

Output specifications

Maximum voltage 45W convection cooled wattage

Voltage regulation +/- 5%

Hold-up time 10ms maximum at full load, 115 VAC

Short circuit protection Auto reset with no damage

Overvoltage protection trip point 115 – 150% of output voltage;
Recycle AC to reset

Safety	UL	UL 1950
	CSA	CSA22.2-234
	VDE	0805 (EN60950)

CE	This product is CE marked following the provisions of the Low Voltage directive 73/23/EEC and the EMC Directive 89/336/EEC
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This is a constant voltage adaptor power supply specifically for use with Gekko Technology Power Supply Unit, LEL-PSU01Z, LEL-PSU01F, KIL-PSU01 and KIL-PSU02 and is not suitable for charging batteries. This power supply may not be suitable for use with other products.

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lenslite step down ring sizes

Part No.	Diameter	Detail
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LELSR077	77mm	fits Fujinon A16 x 9
LELSR080	80mm	fits Zeiss Super Speed Lenses, Canon 16X Mechanical Zoom fits Zeiss T1.3 Prime lenses 9.5mm - 85mm fits Zeiss T2.1 Primes 24mm - 135mm fits Arri macros 16mm - 200mm
LELSR083	83mm	fits Cooke 10.4 - 52 T2.8
LELSR084	84mm	fits Panavision Digital Primes
LELSR085	85mm	fits Angenieux 15 x 8.3 fits many Canon fits Fujinon zooms; A20 x 8.6, S20 x 6.4, A13 x 4.5, A18 x 7.6, A22 x 7 fits Nikon S9 x 5.5
LELSR086	86mm	fits Canon YJ12x, YH12x
LELSR087	87mm	fits Zeiss T3 10:1 zoom
	87mm	fits Zeiss T2 11-110 & 12-120 zoom fits all swing and shift lenses
LELSR089	89mm	fits Canon XL1, 16X Auto Zoom , 3X Auto Zoom
LELSR090	90mm	fits Optex T2 Primes 5.5mm and 8mm
LELSR092	92mm	fits Angenieux 12 x 5.3

LELSR093	93mm	fits PD150/170 with Sony W/A converter
LELSR094	94mm	fits Nikon S20 x 8, S19 x 8
LELSR095	95mm	fits Zeiss T1.9 LDS Ultra Primes 16mm - 135mm
	95mm	fits Fujinon HD Cine prime lenses Hae F5, 8, 12, 16, 20, 34, 40, 54
		fits Canon Zooms 7-56, 8-64, 11-165, 10.3-216
LELSR096	96mm	fits Fujinon HA 14x8
LELSR098	98mm	fits Canon HJ15 x 8B, HJ20 x 8
LELSR100	100mm	fits Fujinon A22 x 7.8mm zoom
		fits Fujinon 17 (8-160mm Zoom)
		fits Angenieux 7 - 81 HR T2.4, 11 x 5.3 Cine HD
LELSR102	102mm	fits Panavision Digital Zooms, 25 -112mm SDZT, 6-27mm SDZW
LELSR104	104mm	fits Arri Digital Primes
LELSR104	105mm	Fits Century Optics .7X Wide Converter and 1.6X Tele Converter
LEL-SRSE		short set, 80, 85, 90, 95, 100mm
LEL-SRLS		large set, 80, 84, 85, 87, 90, 95, 100, 102, 104, 105mm
LEL-SRCS		Complete set 80mm – 105mm

lenslite kit options and parts list

Detail	part no.
lenslite lenslite Daylight head with integral mattebox inc. filter tray holders 4" rotating filter tray 4" x 5.65" filter tray Sony Z1 support bracket and 15mm bars power supply unit and dimmer including 2 x 12 V.D.C. outlets wireless control port step down ring 89mm diffusion filter XLR4 - D.C. in cable	LEL-BK01-Z

lenslite kit cased

lenslite Daylight head with
integral mattebox inc. filter tray holders
4" rotating filter tray
4" x 5.65" filter tray
Sony Z1 support bracket and 15mm bars
power supply unit and dimmer
including 2 x 12 V.D.C. outlets
wireless control port
step down ring 89mm
diffusion filter
XLR4 - D.C. in cable
carrying case with custom foam

LEL-BK02-Z

lenslite cased and extended accessories

LEL-CK01-Z

lenslite Daylight head with
integral mattebox inc. filter tray holders
4" rotating filter tray
4" x 5.65" filter tray
French flag
Sony Z1 support bracket and 15mm bars
power supply unit and dimmer
including 2 x 12 V.D.C. outlets
wireless control port
step down ring set 80mm - 105mm
diffusion filter
clear gel holder
gel cutting template
XLR4 - D.C. in cable
DC out adaptor to Sony Z1/PD150/170/VX2000
Cigar plug and 3m power cord
carrying case with custom foam

Accessories

Lamp housing system Daylight

Lamp head only

Step down rings

80, 85, 89, 95, 100mm

80, 84, 85, 87, 90, 95, 100, 102, 104, 105mm

full set of rings

Eyebrow shade - adjustable French flag

clear gel holder

diffusion filter

gel cutting template

1 x 4" x 4" filter tray

1 x 4" x 5.65" filter tray

19mm bars mounting adaptor

205mm 15mm bars pair

Panavision PV bars mounting bracket

Medium format stills camera bracket

lamp head to flag stand adaptor

2' regulator extension loom

4' regulator extension loom

10' regulator extension loom

XLR - D.C. in cable

Cigar plug and 3m power cord

DC out to Sony Z1/PD150/170/VX2000

power supply unit - Z1

power supply unit - free

mains supply unit

carrying case

LEL-LHS-D

LEL-LH-D

LEL-SR###

LEL-SRSE

LEL-SRLS

LEL-SRCS

LEL-FF01

LEL-GH01

LEL-DG01

LEL-GT01

LEL-FH44

LEL-FH45

LEL-BA19

LEL-1920

LEL-BPV1

LEL-BMF1

LEL-BFS1

LEL-L002

LEL-L004

LEL-L010

LEL-X2DC

LEL-ASC12

LEL-DC2S

LEL-PSU01Z

LEL-PSU01F

KIL-MSU

LEL-CCS

power supply unit F pouch

Battery belt NiMh

Battery belt NiCad

Battery charger

LEL-PSP02

KIL-BBNM12

KIL-BBNC12

KIL-UC01

UK IEC mains supply cable

USA IEC mains supply cable

European IEC mains supply cable

KIL-PSCUK

KIL-PSCUS

KIL-PSCEU

Wireless dimming kit and case

KIL-WD01

Technical details

lenslite™ technical specification		
Input Voltage range	12 VDC (Min)	40 VDC (Max)
Optimum Voltage input	24 VDC	
Voltage Low light warning	12.1V	23.5V
Voltage battery protect cut-out	11.4V	21.8V
Input connection	Lemo 1B302	
	pin 1 -ve	pin 2 +ve
Lemo to XLR jumper (XLR4)	pin 1 -ve	pin 4 +ve
Power requirement at full output @ VIN 14.4	28 Watts	
Power requirement at full output @ VIN 24.0	25 Watts	
Power requirement at full output @ VIN 28.8	27 Watts	
DC out - 2 x Hirose	12 Volts	
	pin 1 -ve	Pin 4 +ve
Flicker frequency (factory default set LOW)	38Khz	76khz
Maximum lens size		110mm
Minimum lens size (with step down ring)	77mm	
lamp head weight	508g	
Z1 integral ballast	462g	
diffusion filter	53g	
15mm x 205mm support bars (pair)	118g	